

**WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS PATENT  
OF THE UNITED STATES IS:**

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1. An electrophotographic photoreceptor comprising an electroconductive substrate, and a photosensitive layer on the electroconductive substrate, wherein the photosensitive layer comprises at least two charge generation materials which have spectral sensitivity in differing wavelength regions, and wherein the photosensitive layer further comprises an organic sulfur-containing compound.

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2. The electrophotographic photoreceptor according to Claim 1, wherein the charge generation materials comprise a phthalocyanine pigment and an asymmetric bisazo pigment having the following formula (I):

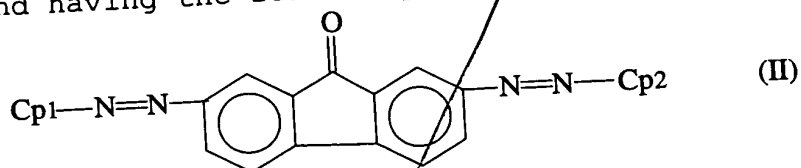


wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp<sub>1</sub> and Cp<sub>2</sub> each, independently, represent a residual group of a coupler, wherein Cp<sub>1</sub> is different from Cp<sub>2</sub>.

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3. The electrophotographic photoreceptor according to Claim 2, wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight.

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4. The electrophotographic photoreceptor according to Claim 2, wherein the asymmetric bisazo pigment comprises a

compound having the following formula (II):



wherein Cp<sub>1</sub> and Cp<sub>2</sub> each, independently, represent a residual group of a coupler, wherein Cp<sub>1</sub> is different from Cp<sub>2</sub>.

5. The electrophotographic photoreceptor according to Claim 2, wherein the phthalocyanine pigment comprises at least one of a  $\tau$ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

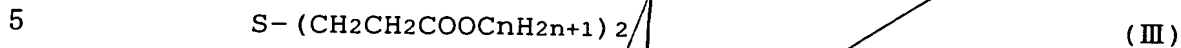
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6. The electrophotographic photoreceptor according to Claim 5, wherein the phthalocyanine pigment comprises a  $\tau$ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg  $2\theta$  angle of 7.6°, 9.2°, 16.8°, 17.4°, 20.4°, 20.9°, 21.7° and 27.6° when a specific X-ray of Cu-K $\alpha$  having a wavelength of 1.541 Å irradiates the pigment.

7. The electrophotographic photoreceptor according to Claim 5, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg  $2\theta$  angle of 7.5°, 9.1°, 16.7°, 17.3°, 22.3° and 28.8° when a specific X-ray of Cu-K $\alpha$  having a wavelength of 1.541 Å irradiates the pigment.

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8. The electrophotographic photoreceptor according to Claim 1, wherein the organic sulfur-containing compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

9. The electrophotographic photoreceptor according to Claim 1, wherein the photosensitive layer further comprises a charge generation layer and a charge transport layer formed on the charge generation layer and including a charge transport material, wherein the charge generation layer comprises the charge generation materials and the charge transport layer comprises the organic sulfur-containing compound.

10. An electrophotographic image forming apparatus comprising:

an electrophotographic photoreceptor;

a charging device which charges the photoreceptor;

a light irradiation device which irradiates the charged photoreceptor to form an electrostatic latent image on the photoreceptor;

a developing device which reversely develops the electrostatic latent image with a developer including a toner, to form a toner image on the photoreceptor;

an image transfer device which transfers the toner image to a receiving material; and

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a cleaning device which cleans the photoreceptor,  
wherein the electrophotographic photoreceptor comprises an  
electroconductive substrate, and a photosensitive layer on the  
electroconductive substrate, wherein the photosensitive layer  
comprises at least two charge generation materials which have  
spectral sensitivity in differing wavelength regions, and  
wherein the photosensitive layer further comprises an organic  
sulfur-containing compound.

10 11. The electrophotographic image forming apparatus  
according to Claim 10, wherein the charging device charges the  
photoreceptor while contacting the photoreceptor.

15 12. The electrophotographic image forming apparatus  
according to Claim 10, wherein the charge generation materials  
comprise a phthalocyanine pigment and an asymmetric bisazo  
pigment having the following formula (I):

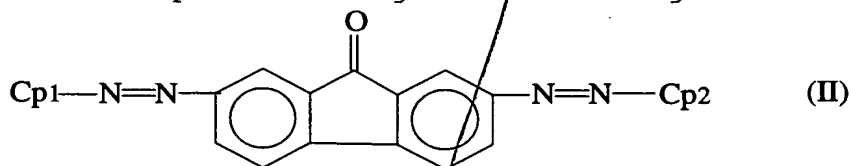


20 wherein A represents a divalent group having a carbon atom which  
connects the nitrogen atoms of the adjacent azo groups; and Cp<sub>1</sub>  
and Cp<sub>2</sub> each, independently, represent a residual group of a  
coupler, wherein Cp<sub>1</sub> is different from Cp<sub>2</sub>.

25 13. The electrophotographic image forming apparatus  
according to Claim 12, wherein the phthalocyanine pigment and  
the asymmetric bisazo pigment are present in the photosensitive  
layer in a ratio of 1:5 to 5:1 by weight.

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14. The electrophotographic image forming apparatus according to Claim 12, wherein the asymmetric bisazo pigment comprises a compound having the following formula (II):



wherein Cp1 and Cp2 each, independently, represent a residual group of a coupler, wherein Cp1 is different from Cp2.

15. The electrophotographic image forming apparatus according to Claim 12, wherein the phthalocyanine pigment comprises at least one of a  $\tau$ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

16. The electrophotographic image forming apparatus according to Claim 15, wherein the phthalocyanine pigment comprises a  $\tau$ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg  $2\theta$  angle of  $7.6^\circ$ ,  $9.2^\circ$ ,  $16.8^\circ$ ,  $17.4^\circ$ ,  $20.4^\circ$ ,  $20.9^\circ$ ,  $21.7^\circ$  and  $27.6^\circ$  when a specific X-ray of Cu-K $\alpha$  having a wavelength of  $1.541 \text{ \AA}$  irradiates the pigment.

17. The electrophotographic image forming apparatus according to Claim 15, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed

at Bragg  $2\theta$  angle of  $7.5^\circ$ ,  $9.1^\circ$ ,  $16.7^\circ$ ,  $17.3^\circ$ ,  $22.3^\circ$  and  $28.8^\circ$  when a specific X-ray of Cu-K $\alpha$  having a wavelength of 1.541 Å irradiates the pigment.

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wherein n is an integer of from 8 to 25.

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19. The electrophotographic image forming apparatus according to Claim 10, wherein the photosensitive layer further comprises a charge generation layer and a charge transport layer formed on the charge generation layer and including a charge  
15 transport material, wherein the charge generation layer comprises the charge generation materials and the charge transport layer comprises the organic sulfur-containing compound.

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20. An electrophotographic process cartridge comprising:  
a photoreceptor; and  
at least one device selected from the groups consisting

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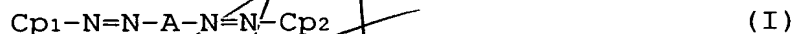
- a charging device which charges the photoreceptor;  
a light irradiation device which irradiates the charged  
photoreceptor to form an electrostatic latent image on the  
photoreceptor;

a developing device which reversely develops the electrostatic latent image with a developer including a toner to form a toner image on the photoreceptor;

an image transfer device which transfers the toner image  
5 to a receiving material; and

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a cleaning device which cleans the photoreceptor,  
wherein the photoreceptor comprises an electroconductive substrate, and a photosensitive layer on the electroconductive substrate, wherein the photosensitive layer comprises at least  
10 two charge generation materials which have spectral sensitivity in differing wavelength regions, and wherein the photosensitive layer further comprises an organic sulfur-containing compound.

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21. The electrophotographic process cartridge according  
15 to Claim 20, wherein the charge generation materials comprise a phthalocyanine pigment and an asymmetric bisazo pigment having the following formula (I):

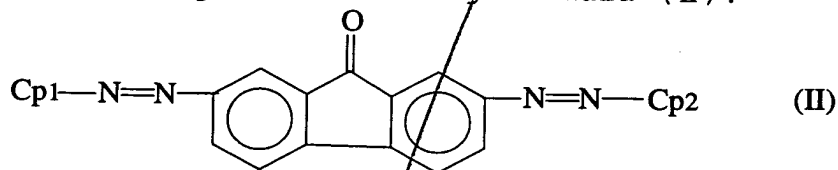


wherein A represents a divalent group having a carbon atom which  
20 connects the nitrogen atoms of the adjacent azo groups; and Cp<sub>1</sub> and Cp<sub>2</sub> each, independently, represent a residual group of a coupler, wherein Cp<sub>1</sub> is different from Cp<sub>2</sub>.

22. The electrophotographic process cartridge according  
25 to Claim 21, wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight.

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23. The electrophotographic process cartridge according to Claim 21, wherein the asymmetric bisazo pigment comprises a compound having the following formula (II):



wherein Cp1 and Cp2 each, independently, represent a residual group of a coupler, wherein Cp1 is different from Cp2.

24. The electrophotographic process cartridge according to Claim 21, wherein the phthalocyanine pigment comprises at least one of a  $\tau$ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

25. The electrophotographic process cartridge according to Claim 24, wherein the phthalocyanine pigment comprises a  $\tau$ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg  $2\theta$  angle of  $7.6^\circ$ ,  $9.2^\circ$ ,  $16.8^\circ$ ,  $17.4^\circ$ ,  $20.4^\circ$ ,  $20.9^\circ$ ,  $21.7^\circ$  and  $27.6^\circ$  when a specific X-ray of Cu-K $\alpha$  having a wavelength of 1.541 Å irradiates the pigment.

26. The electrophotographic process cartridge according to Claim 24, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg



2  $\theta$  angle of 7.5°, 9.1°, 16.7°, 17.3°, 22.3° and 28.8° when a specific X-ray of Cu-K $\alpha$  having a wavelength of 1.541 Å irradiates the pigment.

- 5 27. The electrophotographic process cartridge according to Claim 20, wherein the organic sulfur-containing compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

- 10 28. The electrophotographic process cartridge according to Claim 20, wherein the photosensitive layer further comprises a charge generation layer and a charge transport layer formed on the charge generation layer and including a charge transport  
15 material, wherein the charge generation layer comprises the charge generation materials and the charge transport layer comprises the organic sulfur-containing compound.

- 20 29. An electrophotographic image forming method comprising the steps of:  
providing an electrophotographic photoreceptor;  
charging the electrophotographic photoreceptor;  
irradiating the electrophotographic photoreceptor with  
light to form an electrostatic latent image on the  
25 electrophotographic photoreceptor;

reversely developing the electrostatic latent image with a developer including a toner to form a toner image on the

electrophotographic photoreceptor;

transferring the toner image to a receiving material; and

cleaning the electrophotographic photoreceptor,

wherein the electrophotographic photoreceptor comprises an electroconductive substrate, and a photosensitive layer on the electroconductive substrate, wherein the photosensitive layer comprises at least two charge generation materials which have spectral sensitivity in differing wavelength regions, and wherein the photosensitive layer further comprises an organic sulfur-containing compound.

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30. The electrophotographic image forming method

according to Claim 29, wherein the charge generation materials comprise a phthalocyanine pigment and an asymmetric bisazo pigment having the following formula (I):



wherein A represents a divalent group having a carbon atom which connects the nitrogen atoms of the adjacent azo groups; and Cp<sub>1</sub> and Cp<sub>2</sub> each, independently, represent a residual group of a coupler, wherein Cp<sub>1</sub> is different from Cp<sub>2</sub>.

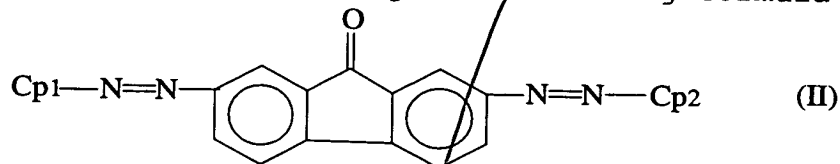
31. The electrophotographic image forming method

according to Claim 30, wherein the phthalocyanine pigment and the asymmetric bisazo pigment are present in the photosensitive layer in a ratio of 1:5 to 5:1 by weight.

32. The electrophotographic image forming method

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according to Claim 30, wherein the asymmetric bisazo pigment comprises a compound having the following formula (II):



wherein Cp1 and Cp2 each, independently, represent a residual group of a coupler, wherein Cp1 is different from Cp2.

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33. The electrophotographic image forming method according to Claim 30, wherein the phthalocyanine pigment comprises at least one of a  $\tau$ -form metal-free phthalocyanine pigment or an X-form metal-free phthalocyanine pigment.

34. The electrophotographic image forming method according to Claim 33, wherein the phthalocyanine pigment comprises a  $\tau$ -form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg  $2\theta$  angle of  $7.6^\circ$ ,  $9.2^\circ$ ,  $16.8^\circ$ ,  $17.4^\circ$ ,  $20.4^\circ$ ,  $20.9^\circ$ ,  $21.7^\circ$  and  $27.6^\circ$  when a specific X-ray of Cu-K $\alpha$  having a wavelength of  $1.541 \text{ \AA}$  irradiates the pigment.

35. The electrophotographic image forming method according to Claim 33, wherein the phthalocyanine pigment comprises an X-form metal-free phthalocyanine pigment having an X-ray diffraction spectrum in which main peaks are observed at Bragg  $2\theta$  angle of  $7.5^\circ$ ,  $9.1^\circ$ ,  $16.7^\circ$ ,  $17.3^\circ$ ,  $22.3^\circ$  and  $28.8^\circ$  when a specific X-ray of Cu-K $\alpha$  having a wavelength of  $1.541 \text{ \AA}$

irradiates the pigment.

36. The electrophotographic image forming method  
according to Claim 29, wherein the organic sulfur-containing  
5 compound comprises a compound having the following formula (III):



wherein n is an integer of from 8 to 25.

37. The electrophotographic image forming method  
10 according to Claim 29, wherein the photosensitive layer further  
comprises a charge generation layer and a charge transport layer  
formed on the charge generation layer and including a charge  
transport material, wherein the charge generation layer  
comprises the charge generation materials and the charge  
15 transport layer comprises the organic sulfur-containing  
compound.

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